UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST
CHICAGO ILLINOIS 60604

REPLY TO ATTENTION OF

AUG 1 1984

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Robert Polack
Vice President & General Counsel
Reilly Tar & Chemical Corporation
1510 Market Square Center
151 North Delaware Street
Indianapolis, Indiana 46204

Re: Reilly Tar & Chemical Corporation Site
St. Louis Park, Minnesota

Dear Mr. Polack:

Enclosed is an Order that the United States Environmental Protection Agency (U.S. EPA), hereby, is issuing to the Reilly Tar & Chemical Corporation pursuant to Section 106(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 U.S.C. 9606(a). The U.S. EPA and the Minnesota Pollution Control Agency (MPCA) have identified hazardous substances at the site that present or may present an imminent and substantial endangerment to public health, welfare or the environment pursuant to CERCLA. The Order requires that Reilly Tar & Chemical Corporation implement a drinking water treatment system for the City of St. Louis Park, Minnesota. Please refer to the enclosed Order for the specific actions required.

If you have any comments or questions about the technical aspects of this matter, please contact Mr. Paul Bitter at (312)886-3007. Comments relating to the legal aspects of this Order should be directed to Robert E. Leininger, Assistant Regional Counsel, at (312)886-6720.

Sincerely yours,

Alan Levin (Acting)

Valdas V. Adamkus
Regional Administrator

Enclosure

cc: Minnesota Pollution Control Agency
Edward Schwartzbauer

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION V

IN THE MATTER OF:	
Reilly Tar & Chemical Corporation	ADMINISTRATIVE ORDER
Proceeding Under Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 [42 U.S.C. 9606(a)]	Docket No. V-W-84-011

PREAMBLE

The following Order is issued on this date to Reilly Tar & Chemical Corporation (hereafter "Respondent") pursuant to the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. 9606(a), and delegated to the United States Environmental Protection Agency (U.S. EPA) by Executive Order No.12316, August 26, 1981, 46 Federal Register 42237, and redelegated to the Regional Administrator by Delegation 14-14 issued April 1, 1983. Notice of the issuance of this Order has heretofore been given to the State of Minnesota.

FINDINGS AND CONCLUSIONS

1. The Reilly Tar & Chemical Corporation site (hereafter "Facility") is an eighty acre "facility", as such term is defined in Section 101(a) of CERCLA, where hazardous substances were deposited, stored, disposed of, placed or located. It is located in a residential area in St. Louis Park, Minnesota, west of Gorham, Republic and Louisiana Avenues, south of 32nd street, east of Pennsylvania Avenue and North of Walker street.

2. From 1917 to 1973 the Respondent owned the Facility upon which was operated a coal tar distillery and wood preserving operation. Respondent was an "owner or operator" of the Facility from 1917 to 1973 within the meaning of Section 101(20) of CERCLA. In 1972 the structures of the Facility were dismantled and in 1973 the Facility was sold to the city of St. Louis Park.

3. The main product of Respondent's coal tar distillation operation at the Facility was creosote, which is a "hazardous substance" as defined in Section 101(14) of CERCLA. The chemical compounds that compose creosote and the wastes associated with creosote production are polynuclear aromatic hydrocarbons (PAH) and phenolics. Many of these compounds are hazardous substances, pose health risks and some are carcinogenic.

4. During the entire course of operations at the Facility, Respondent discharged waste containing hazardous substances onto the Facility and into a peat bog south of the Facility. The peat bog has released and continues to release such hazardous substances into the groundwater.

5. Wastes containing hazardous substances also were discharged into a well which is located on the Facility. The wastes penetrated the well to a known depth of 740 feet and thereby contaminated the Prairie du Chien-Jordan aquifer. The Prairie du Chien-Jordan aquifer is the primary source of drinking water for approximately 100,000 people in the cities of St. Louis Park, Edina and Hopkins.

6. In 1978 the city of St. Louis Park closed four of its municipal drinking water wells due to the presence of hazardous substances released from the Facility into the Prairie du Chien-Jordan aquifer. St. Louis Park subsequently closed down two other municipal drinking water wells due to the presence of hazardous substances from the Facility in the drinking water. The city of St. Louis Park has lost a substantial amount of its municipal drinking water capacity as a consequence of the well shutdowns which have occurred since 1978. In addition, in March, 1981 the city of Hopkins, Minnesota shut down one of its municipal drinking water wells because of the presence of hazardous substances released from the Facility into the Prairie du Chien-Jordan aquifer.

7. Analyses which have been conducted on behalf of MPCA and Respondent have revealed the presence of the following hazardous substances which were released from the Facility and were found in the aquifer which supplies the municipal drinking water:

> Chrysene, acenaphthylene, acenaphthene, anthracene, benz(a)anthracene, naphthalene, phenanthrene, pyrene, quinoline, benzo(k)fluoranthene, benzo(a)pyrene, fluoranthene, fluorene and indeno(1,2,3-cd)pyrene.

8. In August, 1981 the Minnesota Pollution Control Agency (MPCA) was awarded funds pursuant to CERCLA to perform a study for restoration of the drinking water supply to the city of St. Louis Park. In August 1982, MPCA hired a contractor, approved by U.S. EPA, to assist in developing information for the evaluation of water supply alternatives for St. Louis Park. These alternatives were developed, reviewed and tested by the MPCA, U.S. EPA and their contractors.

9. After thorough consideration of all of the drinking water supply alternatives, U.S. EPA determined that installation of a granular activated carbon water treatment system was the cost-effective remedy which would provide adequate protection to public health, welfare and the environment. This determination was made, consistent with CERCLA and the National Contingency Plan (40 CFR Part 300), and embodied in a Record of Decision for Remedial Action Alternative Selection which was signed on June 6, 1984 by Lee M. Thomas, Assistant Administrator for Solid Waste and Emergency Response. A copy of the Record of Decision is attached hereto as Exhibit A.

10. The presence of hazardous substances including known carcinogens, in the drinking water supply of St. Louis Park, Minnesota may present an imminent and substantial endangerment to public health, welfare or the environment because of the previous, current and continued release and threatened release of hazardous substances from the Facility.

11. In order to abate the threat to public health, welfare and the environment, it is necessary that the remedial actions, as set forth in the Record of Decision (Exhibit A) be undertaken on an expedited basis.

ORDER

Based upon the foregoing Findings and Conclusions, and pursuant to Section 106(a) of CERCLA, 42 U.S.C. 9606(a) it is hereby ordered that the following actions be taken by Respondent: For the purpose of this Order the definitions provided in Exhibit B will be used.

1. Within 60 calendar days of the effective date of this Order, Respondent shall develop and submit a complete design including plans and specifications for the construction of a granular activated carbon (GAC) treatment system at the St. Louis Park municipal drinking water wells designated SLP15/10. The treatment system shall be designed consistent with the design criteria which have been developed by U.S. EPA and MCPA. A copy of such design criteria is attached hereto as Exhibit C.

2. Following receipt of the GAC treatment system design, U.S. EPA will review the design and notify Respondent in writing as to whether the design has been approved or disapproved.

3. If the design is not approved, the notification will set forth the modifications which are required to be made to such design.

4. Respondent shall have ten calendar days, from receipt of the notice that the design was not approved, within which to submit the required modifications to U.S. EPA. If Respondent's modifications to the design are acceptable, U.S. EPA will notify Respondent in writing that the design has been approved. If the modifications are not acceptable, U.S. EPA will either:

a) notify Respondent in writing that the design has been modified by U.S. EPA and shall be considered to be approved as so modified or

b) notify Respondent that Respondent is deemed not to have complied with the terms of this Order.

5. Respondent shall have two hundred calendar days from the date that the design is approved within which to fully construct and initiate operation of the GAC treatment system pursuant to the approved design.

6. Respondent shall provide written progress reports to U.S.EPA which describe the actions which have been taken toward achieving compliance with this Order during the previous month as well as actions which are scheduled for the next month. These progress reports are to be submitted to U.S. EPA by the tenth day of every month following the effective date of this Order.

7. Respondent shall make available to U.S. EPA any documents, data or other information developed, used or relied upon pursuant to its implementation of the terms of this Order.

8. Respondent shall provide written notification to U.S.

EPA within 3 days of completing construction of the GAC treatment system pursuant to the approved design. Following receipt of such notification, U.S. EPA will inspect the system, and Respondent shall demonstrate that the system has been constructed and operates in accordance with the approved design.

9. Following inspection of the treatment system U.S. EPA will notify Respondent in writing as to whether the treatment system is approved or disapproved. If the treatment system is approved the Respondent shall sample the performance of the system in accordance with the attached sampling schedule, Exhibit D. If the treatment system is not approved, the notification will set forth the modifications which are required to be made in the treatment system.

10. Respondent shall have fifteen calendar days from receipt of the notice within which to initiate the required modifications to the treatment system. At such time when the modifications are acceptable, U.S. EPA will notify Respondent in writing that the treatment system has been approved. If the modifications are not acceptable, U.S. EPA will notify Respondent that Respondent is deemed not to have complied with the terms of this Order.

11. Within one hundred fifty calendar days of approval of the design for the treatment system, Respondent shall submit a plan for the operation and maintenance of the GAC treatment system over the next 25 years consistent with Exhibit D, attached hereto. Following receipt of such plan, U.S. EPA will review the plan and notify Respondent in writing as to whether the plan is

approved or disapproved. If not approved, the notification will set forth the modifications which are required to be made to the plan.

12. Respondent shall have fifteen calendar days from receipt of the notice within which to submit the required modifications to U.S. EPA. If the modifications are not acceptable, U.S. EPA will either:

a) notify Respondent in writing that the plan has been modified by U.S. EPA and shall be considered to be approved as so modified or

b) notify Respondent that Respondent is deemed not to have complied with the terms of this Order.

13. Respondent shall be fully and solely responsible for implementation of the approved operating and maintenance plan for the GAC treatment system. Such responsibility shall commence on the date that Respondent receives approval of the construction of the treatment system and shall continue for the period of time within which the system is required to be operated pursuant to Exhibit D.

14. All instructions by U.S. EPA representatives consistent with the terms of this Order, and consistent with Section 106(a) of CERCLA, 42 U.S.C. 9606(a), and with the National Contingency Plan, 40 CFR Part 300, shall be binding upon the Respondent and shall be deemed a part of this Order.

15. On or before the effective date of this Order, Respondent shall provide notice in writing to U.S. EPA stating its

intention to comply with the terms thereof. In the event that Respondent fails to provide such notice, said Respondent shall be deemed not to have complied with the terms of this Order.

16. The provisions of this Order shall be binding upon employees, agents, successors, and assigns of the Respondent. Nothing contained in this Order shall affect any right, claim, or cause of action of any party hereto with respect to third parties.

17. Nothing contained herein shall be construed to prevent U.S. EPA from seeking legal or equitable relief to enforce the terms of this Order, or from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondent in the future to perform additional activities pursuant to CERCLA, 42 U.S. C. 9601 et seq., or any other applicable law.

18. All notices and consultation required under the terms of this Order shall be directed to Paul Bitter, On-Scene Coordinator, at the following address:

Paul Bitter, On-Scene Coordinator
United States Environmental Protection Agency
Region V
230 South Dearborn
Chicago, Illinois 60604

19. This Order shall be effective on the tenth (10th) calendar day following issuance unless a conference is requested as hereinafter provided. If a conference is requested, this Order shall be effective on the third (3rd) calendar day following the day of the conference unless modified by the Regional Administrator.

ACCESS TO ADMINISTRATIVE RECORD

The Administrative Record supporting the above Findings, Conclusions and Order is available for review on weekdays between the hours of 8:00 A.M. and 5:00 P.M., in the Office of Regional Counsel, 16th Floor, United States Environmental Protection Agency. Region V, 230 South Dearborn Street, Chicago, Illinois 60604. Please contact Robert Leininger, Assistant Regional Counsel, at 312/886-6720, if you desire to review the Administrative Record.

OPPORTUNITY TO CONFER

With respect to the actions required above, you may within ten (10) calendar days after issuance of this Order request a conference with U.S. EPA to discuss this Order and its applicability to you. Any such conference shall be held within 21 calendar days from the date of request. At any conference held pursuant to your request, you may appear in person and by an attorney or other representatives for the purpose of presenting objections, defenses or contentions which you may have regarding this Order. If you desire such a conference, please contact Robert Leininger, Assistant Regional Counsel, at 312/886-6720. Any comments which you may have regarding this Order, its applicability to you, the correctness of any factual determinations upon which the Order is based, the appropriateness of any action which you are ordered to take, or any other relevant and material issue must be reduced to writing and submitted to U.S. EPA on the

day of the conference, or if no conference is requested, within seven (7) calendar days following the issuance of this Order. Any such writing should be sent to Robert Leininger, Assistant Regional Counsel, U.S. EPA, Region V, 230 S. Dearborn Street Chicago, Illinois 60604.

You are hereby placed on notice that U.S. EPA will take any action which may be necessary in the opinion of U.S. EPA for the protection of public health and welfare and the environment, and Respondent may be liable under Section 107(a) of CERCLA, 42 U.S.C. 9607(a), for the costs of those government actions.

PENALTIES FOR NONCOMPLIANCE

Respondent is advised that, pursuant to §106(b) of CERCLA, 42 U.S.C. 9606(b), willful violation or subsequent failure or refusal to comply with this Order, or any portion thereof, may subject Respondent to a civil penalty of not more than $5,000 for each day in which such violation occurs or such failure to comply continues. Failure to comply with this Order, or any portion thereof, without sufficient cause, may also subject Respondent to liability for punitive damages in an amount three times the amount of any costs incurred by the government as a result of Respondent's failure to take proper action, pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. 9607(c)(3).

IT IS SO ORDERED

on this 1st day of

Aug., 1984.

By: Alan Levin (Acting)
Valdas V. Adamkus

Regional Administrator
United States Environmental
Protection Agency

* Index to Administrative Record, Reilly Tar & Chemical Corporation

1. "Evaluation of Ground Water Treatment and Water Supply Alternatives for St. Louis Park, Minnesota", Volume 1, and 2, CH_2M Hill, November, 1983.

2. Tech Memos to Exhibit 1.

3. Phone Memoranda between CH_2M Hill and EPA on the above.

4. "Study of Groundwater Contamination in St. Louis Park, Minnesota", E.A. Hickok and Associates, et. al., November, 1981.

5. Appendices to Exhibit 4.

6. "Soil and Groundwater Investigation, Former Coal Tar Distillation and Wood Preserving Facility, St. Louis Park, Minnesota", Barr Engineering Company, July, 1977.

7. "Recommended Plan for a Comprehensive Solution of the Polynuclear Aromatic Hydrocarbon Contamination Problem in the St. Louis Park Area, Volume 1 thru 4, ERT, Inc. April, 1983.

8. Errata for Exhibit 7, June, 1983.

9. "Preliminary Evaluation of Ground Water Contamination by Coal Tar Derivatives, St. Louis Park, Minnesota" Hult and Schoenberg, USGS, January, 1981.

10. Chemical data produced by University of Iowa Laboratories for E.A. Hickok and Associates.

11. Remedial Action Plan, MPCA, U.S. EPA, January, 1984.

12. "Ambient Water Quality Criteria for Polynuclear Aromatic Hydrocarbons", U.S. EPA, 1980.

13. Phone Memorandum between the MPCA and EPA.

14. Affidavit of Carl F. Lesher in opposition to plaintiff's motion for summary judgement dated March 2, 1984.

15. "A Review of Occurrences and Treatment of Polynuclear Aromatic Hydrocarbons", U.S. EPA, 1981.

* Some of the documents listed in the Administrative Record cite other documents in making statements and conclusions. These citations as discussed in the listed documents have also been considered.

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EXHIBIT B

DEFINITIONS

As used in this Order and Exhibits, regarding construction, monitoring and operation of a GAC System, the following words and phrases shall have these meanings:

Advisory level: A PAH concentration higher than 15 nanograms per liter (ng/l) carcinogenic PAH or 175 ng/l other PAH in drinking water which has been treated to remove PAH or in ground water which is monitored in order to determine the need to install drinking water treatment.

Carcinogenic PAH: Those PAH compounds listed in Exhibit E as being carcinogenic, and any compounds which the MPCA or EPA has determined subsequent to the date of this Order to pose a significant risk of being carcinogenic. For compliance monitoring purposes, the concentration of carcinogenic PAH shall be the sum of the concentrations of all carcinogenic compounds listed in Exhibit E.

Day: When used in this Order to indicate a deadline for a required action, a day shall mean a calendar day. Whenever a submittal or action required by the Order falls on a Saturday, Sunday or legal holiday, the submittal or action shall be due upon the next following day of business.

EPA: The United States Environmental Protection Agency

EXHIBIT C DESIGN CRITERIA

The system shall be designed in accordance with the following criteria:

Item	Design Value
Flow Rate from SLP 15/10	1,200 gal/min
Raw Water PAH Concentration	7,000 ng/l
Treated Water PAH Concentration (until otherwise specified by the EPA and MPCA)	Carcinogenic PAH less than 2.8 ng/l Total PAH less than 280 ng/l

Carbon Columns

Number	3
Size	16 ft. diameter X 5 ft.
Bed Volume (empty)	5,200 gal. per column
Carbon Capacity	20,000 lb. per bed 60,000 lb. total
Loading Rate	6.0 gal/min./ft2
Contact Time (empty bed basis)	12.9 min. total
Head Loss Across Columns	
-Clean Bed	3.5 lb/in2
-At Backwash	15.0 lb./in2
Carbon	Calgon "Filtrasorb 300" or equivalent

Minicolumns (for pilot testing alternative carbon)

Number	4
Size	4 in. diameter X 4 ft.

EXHIBIT D

OPERATION, SAMPLING AND MONITORING OF GAC SYSTEM

(1) Reilly shall operate the GAC system at SLP 15 and SLP 10 until all samples taken at the wellhead for each of the previous five consecutive years are below the drinking water criteria for carcinogenic and other PAH listed in Exhibit E.1 and below the advisory level for each of the previous three consecutive years. At least two of these samples, or two additional samples, taken at least one year apart, must be monitored for the extended list of PAH in Exhibit E.2, using GC/MS as specified in Exhibit D or as specified in the monitoring plan submitted by Reilly as approved by the Regional Administrator. A sample which yields results above the drinking water criteria or advisory level may be excluded from the determination above if a duplicate sample or all additional samples taken not more than three weeks after the sample in question is taken yield results below the drinking water criteria or the advisory level, respectively.

(2) Treated water from the GAC system shall be monitored as follows:

(A) During the testing period prior to hookup to the distribution system, Reilly shall monitor six times.

(B) During the first month following approval of the system and connection to the municipal drinking water distribution system, Reilly shall monitor twice weekly. Following review of the analytical results, the Regional Administrator may determine that the system is operating properly, and authorize Reilly to

assume the routine monitoring frequency described in (C) below; or, if the determination is made that the results do not indicate proper operation of the system, may require Reilly to continue twice weekly monitoring for a period of time not to exceed two months or to remove the GAC system from the municipal distribution system and conduct further testing of the system, modification of the system, or other action as approved by the Regional Administrator.

(C) Routine monitoring shall be done monthly until the carbon has been replaced twice. If advisory level or replacement level results are obtained during the first year of operation of the system, Reilly shall immediately notify the Regional Administrator and shall conduct such additional monitoring, testing, modification of the system, or other action as may be required by the Regional Administrator.

(D) Routine monitoring after two carbon changes shall be done quarterly, unless the Regional Administrator determines that the observed service life of the carbon is too short to permit this frequency, in which case the Regional Administrator will notify Reilly of the required monitoring frequency.

(E) If any monthly or quarterly sample exceeds the advisory level, another sample shall be taken immediately and analyzed. If this second sample yields comparable results, the frequency of analysis shall increase to semimonthly until three consecutive results below the advisory limit are obtained.

(F) If the result of monitoring any sample is found to exceed the replacement level, another sample shall be taken immediately. If the analytical result of the second sample exceeds the advisory level but is less than the replacement level, Reilly shall monitor as specified in paragraph (E) above. If the analytical result of the second sample exceeds the replacement level, the system shall be shut down and the carbon replaced with fresh carbon in accordance with the requirements below. Following replacement of carbon, treated water shall be monitored weekly for one month, and in accordance with the monitoring requirements of (C) and (D) above thereafter.

(3) Untreated water from SLP 10 or 15 shall be monitored at the well head at the same time treated water from the GAC system is monitored at the following intervals:

(A) During the testing period prior to hookup, untreated water shall be monitored each time treated water is monitored.
(B) During the first month after connection to the distribution system, untreated water shall be monitored weekly.
(C) After the Regional Administrator has approved routine monitoring of treated water, during the first two carbon fills in the GAC system, routine monitoring of untreated water shall be quarterly.
(D) After two carbon changes in the GAC system, untreated water shall be monitored annually.

(E) If the treatment system is located downstream of the sand filter, water shall also be monitored at the point of entry to the treatment system at the same intervals and at the same time as samples of untreated water are taken in accordance with subparagraphs 1 through 4 of this Exhibit D.

(4) When minicolumns are used to predict breakthrough of the carbon in use in the treatment system or for testing carbons from suppliers other than the supplier of the carbon in use in the treatment system, Reilly shall monitor minicolumns monthly until breakthrough of PAH occurs. Carbon shall then be replaced in the minicolumns and again monitored monthly until breakthrough occurs.

(5) At least one sample of treated water from the GAC system per year shall be monitored for the extended list of PAH in Exhibit E.2 using gas chromatography/mass spectroscopy (GC/MS). During this extended analysis, any compounds, other than those routinely analyzed for, which are detected shall be identified and, if possible, quantified, using a mass spectral library which contains extensive spectra of PAH compounds such as the NBS mass spectral library. Reilly shall analyze, at least once a year, a sample of treated and untreated water for the acid fraction compounds determined by U.S. EPA Test Method 625 or by other methods approved by the Regional Administrator, such as high performance liquid chromatography with electrochemical detection for the measurement of phenolic compounds. Reilly shall submit a Quality Assurance/ Quality Control Plan for analysis of PAH compounds for approval by U.S. EPA prior to collection of samples.

(6) Reilly shall report the results of each analysis of treated or untreated water taken from SLP 10 or SLP 15 regardless of whether the samples are required in this Exhibit. Data recorded pursuant to this Exhibit as well as other data obtained from SLP 10 or SLP 15 shall be reported to the U.S. EPA and the State of Minnesota no later than the tenth day of the month following the recording of the data by Reilly. The said data shall be included in the monthly progress reports cited in paragraph 6 of this Order.

CARBON REPLACEMENT

Whenever Reilly is required to replace carbon in the GAC system, the following procedure shall be used:

(A) When the system is operated in series, the carbon in the first two columns shall be replaced. The configuration of the system shall then be adjusted so that the influent flows first to the column which was formerly last in the series, and then to the two columns which received fresh carbon.

(B) When the system is operated in parallel, carbon in all columns shall be replaced.

(C) When the system is operated with two columns in parallel followed by one column in series, the carbon in all columns shall be replaced.

CARBON DISPOSAL

Reilly shall transport and dispose of or provide for the regeneration of spent carbon from the treatment system in accordance with all aplicable rules, regulations, laws and ordinances.

EXHIBIT E

1. List Of Compounds To Be Monitored On Periodic Basis

Naphthalene
1-Methylnaphthalene
2-Methylnaphthalene
Acenaphthylene
Acenaphthene
Fluorene
Anthracene
Phenanthrene
Pyrene
Fluoranthene
+Benzo(a) anthracene
+Chrysene
+Benzo(b)fluoranthene
+Benzo(k)fluoranthene
+Benzo(a)pyrene
+Benzo(e)pyrene
+Benzo (j)fluoranthene
Perylene
Benzo(ghi)perylene
+Indeno(1,2,3-cd)pyrene
+Dibenzo(a,h)anthracene
Acridine
Carbazole
Indole
+Quinoline
Benzo(b)thiophene
Dibenzofuran
2,3-Benzofuran
Biphenyl
2,3-Dihydroindene
Indene

2. Extended list of compounds to be monitored periodically

+Dibenzo ae,pyrene
+Dibenzo ah,pyrene
+Dibenzo ai,pyrene
+7,12-Dimethylbenz(a)anthracene
+Dibenz(a,c)anthracene
+3 Methylcholanthrene
+Benzo(c)phenanthrene
Other compounds as agreed upon

+ = Carcinogen